

**SEQUENCE LISTING**

<110> Allen, Stephen M.  
Rafalski, J. Antoni  
Sakai, Hajime

## <120> Nitrogen Transport Metabolism

<130> BB-1210

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<150> 60/098,248

<151> 28 August 1998

<160> 14

<170> Microsoft Office 97

<210> 1

<211> 1037

<212> DNA

<213> Zea mays

<400> 1

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<211> 183

<212> PRT

<213> Zea mays

<400> 2

Thr Arg Phe Ala Ala Ile Thr Ala Gly Cys Ser Val Val Glu Pro Trp  
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Ala Ala Val Ile Cys Gly Phe Val Ser Ala Trp Val Leu Ile Gly Ala  
20 25 30

Asn Ala Leu Ala Ala Arg Phe Arg Phe Asp Asp Pro Leu Glu Ala Ala  
35 40 45

Gln Leu His Gly Gly Cys Gly Ala Trp Gly Val Leu Phe Thr Gly Leu  
50 55 60

Phe Ala Arg Arg Lys Tyr Val Glu Glu Ile Tyr Gly Ala Gly Arg Pro  
65 70 75 80

Tyr Gly Leu Phe Met Gly Gly Gly Lys Leu Leu Ala Ala Gln Ile  
85 90 95

Ile Gln Ile Leu Val Ile Ala Gly Trp Val Ser Cys Thr Met Gly Pro  
100 105 110

Leu Phe Tyr Ala Leu Lys Lys Leu Gly Leu Leu Arg Ile Ser Ala Asp  
115 120 125

Asp Glu Met Ser Gly Met Asp Leu Thr Arg His Gly Gly Phe Ala Tyr  
130 135 140

Val Tyr His Asp Glu Asp Pro Gly Asp Lys Ala Gly Val Gly Gly Phe  
145 150 155 160

Met Leu Lys Ser Ala Gln Asn Arg Val Glu Pro Ala Ala Ala Val Ala  
165 170 175

Ala Ala Thr Ser Ser Gln Val  
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<210> 3

<211> 1706

<212> DNA

<213> Glycine max

<400> 3

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atgagacgcgca caagcatggg atgcagttga gtaggggtgg gcccaacgcg tcttccacac 1560  
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<211> 500

<212> PRT

<213> Glycine max

<400> 4

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Pro Asn Thr Thr Asp Ala Ser Ala Ala Ser Leu Ile Cys Gly His  
20 25 30

Phe Ala Ala Val Asp Ser Lys Phe Val Asp Thr Ala Phe Ala Val Asp  
35 40 45

Asn Thr Tyr Leu Leu Phe Ser Ala Tyr Leu Val Phe Ser Met Gln Leu  
50 55 60

Gly Phe Ala Met Leu Cys Ala Gly Ser Val Arg Ala Lys Asn Thr Met  
65 70 75 80

Asn Ile Met Leu Thr Asn Val Leu Asp Ala Ala Gly Gly Leu Phe  
85 90 95

Tyr Tyr Leu Phe Gly Phe Ala Phe Gly Ser Pro Ser Asn Gly  
100 105 110

Phe Ile Gly Lys His Phe Phe Gly Leu Lys Asp Ile Pro Ser Ser Ser  
115 120 125

Tyr Asp Tyr Ser Tyr Phe Leu Tyr Gln Trp Ala Phe Ala Ile Ala Ala  
130 135 140

Ala Gly Ile Thr Ser Gly Ser Ile Ala Glu Arg Thr Gln Phe Val Ala  
145 150 155 160

Tyr Leu Ile Tyr Ser Ser Phe Leu Thr Gly Phe Val Tyr Pro Val Val  
165 170 175

Ser His Trp Phe Trp Ser Pro Asp Gly Trp Ala Ser Ala Phe Lys Ile  
180 185 190

Thr Asp Arg Leu Phe Ser Thr Gly Val Ile Asp Phe Ala Gly Ser Gly  
195 200 205

Val Val His Met Val Gly Gly Ile Ala Gly Leu Trp Gly Ala Leu Ile  
210 215 220

Glu Gly Pro Arg Met Gly Arg Phe Asp His Ala Gly Arg Ala Val Ala  
225 230 235 240

Leu Arg Gly His Ser Ala Ser Leu Val Val Leu Gly Thr Phe Leu Leu  
245 250 255

Trp Phe Gly Trp Tyr Gly Phe Asn Pro Gly Ser Phe Asn Lys Ile Leu  
260 265 270

Leu Thr Tyr Gly Asn Ser Gly Asn Tyr Tyr Gly Gln Trp Ser Ala Val  
275 280 285

Gly Arg Thr Ala Val Thr Thr Leu Ala Gly Ser Thr Ala Ala Leu  
290 295 300

Thr Thr Leu Phe Gly Lys Arg Val Ile Ser Gly His Trp Asn Val Thr  
305 310 315 320

Asp Val Cys Asn Gly Leu Leu Gly Gly Phe Ala Ala Ile Thr Ala Gly  
325 330 335

Cys Ser Val Val Glu Pro Trp Ala Ala Ile Val Cys Gly Phe Val Ala  
340 345 350

Ser Ile Val Leu Ile Ala Cys Asn Lys Leu Ala Glu Lys Val Lys Phe  
355 360 365

Asp Asp Pro Leu Glu Ala Ala Gln Leu His Gly Gly Cys Gly Thr Trp  
370 375 380

Gly Val Ile Phe Thr Ala Leu Phe Ala Lys Lys Glu Tyr Val Lys Glu  
385 390 395 400

Val Tyr Gly Leu Gly Arg Ala His Gly Leu Leu Met Gly Gly Gly  
405 410 415

Lys Leu Leu Ala Ala His Val Ile Gln Ile Leu Val Ile Ala Gly Trp  
420 425 430

Val Ser Ala Thr Met Gly Pro Leu Phe Trp Gly Leu Asn Lys Leu Lys  
435 440 445

Leu Leu Arg Ile Ser Ser Glu Asp Glu Leu Ala Gly Met Asp Met Thr  
450 455 460

Arg His Gly Gly Phe Ala Tyr Ala Tyr Glu Asp Asp Glu Thr His Lys  
465 470 475 480

His Gly Met Gln Leu Arg Arg Val Gly Pro Asn Ala Ser Ser Thr Pro  
485 490 495

Thr Thr Asp Glu  
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<210> 5

<211> 1991

<212> DNA

<213> Triticum aestivum

<400> 5

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ggcgaacgcc acggactacc tgtcaaacag gttcgccgac accacgtccg cggtggaactc 180  
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<210> 6

<211> 494

<212> PRT

<213> Triticum aestivum

<400> 6

Met Ser Ala Thr Cys Ala Ala Asp Leu Gly Pro Leu Leu Gly Ala Ala  
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 20 25 30

Ser Ala Val Asp Ser Thr Tyr Leu Leu Phe Ser Ala Tyr Leu Val Phe  
35 40 45

Ala Met Gln Leu Gly Phe Ala Met Leu Cys Ala Gly Ser Val Arg Ala  
50 55 60

Lys Asn Thr Met Asn Ile Met Leu Thr Asn Val Leu Asp Ala Ala Ala  
65 70 75 80

Gly Ala Leu Phe Tyr Tyr Leu Phe Gly Phe Ala Phe Ala Phe Gly Thr  
85 90 95

Pro Ser Asn Gly Phe Ile Gly Lys His Phe Phe Gly Leu Lys Asp Met  
           100                 105                 110

Pro Gln Thr Gly Phe Asp Tyr Ser Phe Phe Leu Phe Gln Trp Ala Phe  
115 120 125

Ala Ile Ala Ala Gly Ile Thr Ser Gly Ser Ile Ala Glu Arg Thr  
130 135 140

2 3 4 5 6 7 8 9 10 11 12 13 14

Gln Phe Val Ala Tyr Leu Ile Tyr Ser Ala Phe Leu Thr Gly Phe Val  
145 150 155 160

Tyr Pro Val Val Ser His Trp Ile Trp Ser Val Asp Gly Trp Ala Ser  
165 170 175

Ala Ala Arg Thr Ser Gly Pro Leu Leu Phe Lys Ser Gly Val Ile Asp  
180 185 190

Phe Ala Gly Ser Gly Val Val His Met Val Gly Gly Ile Ala Gly Phe  
195 200 205

Trp Gly Ala Leu Ile Glu Gly Pro Arg Ile Gly Arg Phe Asp His Ala  
210 215 220

Gly Arg Ser Val Ala Leu Lys Gly His Ser Ala Ser Leu Val Val Leu  
225 230 235 240

Gly Thr Phe Leu Leu Trp Phe Gly Trp Tyr Gly Phe Asn Pro Gly Ser  
245 250 255

Phe Val Thr Ile Leu Lys Ser Tyr Gly Pro Pro Gly Ser Ile Asn Gly  
260 265 270

Gln Trp Ser Gly Val Gly Arg Thr Ala Val Thr Thr Leu Ala Gly  
275 280 285

Ser Val Ala Ala Leu Thr Thr Leu Phe Gly Lys Arg Leu Gln Thr Gly  
290 295 300

His Trp Asn Val Val Asp Val Cys Asn Gly Leu Leu Gly Gly Phe Ala  
305 310 315 320

Ala Ile Thr Ala Gly Cys Ser Val Val Asp Pro Trp Ala Ala Val Ile  
325 330 335

Cys Gly Phe Val Ser Ala Trp Val Leu Ile Gly Leu Asn Ala Leu Ala  
340 345 350

Gly Arg Leu Lys Tyr Asp Asp Pro Leu Glu Ala Ala Gln Leu His Gly  
355 360 365

Gly Cys Gly Ala Trp Gly Ile Ile Phe Thr Ala Leu Phe Ala Lys Lys  
370 375 380

Gln Tyr Val Glu Glu Ile Tyr Gly Ala Gly Arg Pro Tyr Gly Leu Phe  
385 390 395 400

Leu Gly Gly Gly Arg Leu Leu Ala Ala His Ile Val Gln Ile Leu  
405 410 415

Val Ile Ala Gly Phe Val Ser Cys Thr Met Gly Pro Leu Phe Leu Ala  
420 425 430

Leu Lys Lys Leu Gly Leu Leu Arg Ile Ser Ala Glu Asp Glu Met Ala  
435 440 445

Gly Met Asp Leu Thr Arg His Gly Gly Phe Ala Tyr Val Tyr His Asp  
450 455 460

Asp Asp Glu His Asp Lys Ser Val Gly Gly Phe Met Leu Arg Ser Ala  
465 470 475 480

Gln Thr Arg Val Glu Pro Ala Ala Ala Asn Ser Gln Val  
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<212> DNA  
<213> Zea mays

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<210> 8  
<211> 63  
<212> PRT  
<213> Zea mays

<400> 8  
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Lys Gly Asp Asn Ala Trp Gln Leu Thr Ala Ala Thr Leu Val Gly Leu  
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Gln Ser Phe Pro Gly Leu Val Val Leu Tyr Gly Gly Val Val Lys Lys  
35 40 45

Lys Trp Ala Val Asn Ser Ala Phe Met Ala Leu Tyr Ala Phe Ala  
50 55 60

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<212> DNA  
<213> *Oryza sativa*

<210> 10  
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<212> PRT  
<213> Oryza sativa

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20 25 30

Ala Thr Phe Val Gly Leu Gln Ser Met Pro Gly Leu Val Val Leu Tyr  
35 40 45

Gly Ser Ile Val Lys Lys Trp Ala Val Asn Ser Ala Phe Met Ala  
50 55 60

Leu Tyr Ala Tyr Ala Ser Thr Leu Ile Val Trp Val Leu Val Gly Phe  
65 70 75 80

Arg Met Ala Phe Gly Asp Arg Leu Leu Pro Phe Trp Gly Lys Ala Gly  
85 90 95

Ala Ala Leu Thr Glu Gly Phe Leu Val Ala Arg Ala Ser Val Pro Ala  
100 105 110

Thr Ala His Tyr Gly Lys Asp Gly Ala Leu Glu Ser Pro Arg Thr Glu  
115 120 125

Pro Phe Tyr Pro Glu Ala Ser Met Val Leu Phe Gln Phe Glu Leu Ala  
130 135 140

Ala Ile Thr Leu Val Leu Leu Ala Gly Ser Leu Leu Gly Arg Met Asn  
145 150 155 160

Ile Lys Ala Trp Met Ala Phe Thr Pro Leu Trp Leu Leu Phe Ser Tyr  
165 170 175

Thr Val Cys Ala Phe Ser Leu Trp Gly Gly Phe Leu Tyr Gln Trp  
180 185 190

Gly Val Ile Asp Tyr Ser Gly Gly Tyr Val Ile His Leu Ser Ser Gly  
195 200 205

Ile Ala Gly Phe Thr Ala Ala Tyr Trp Val Gly Pro Arg Leu Lys Ser  
210 215 220

Asp Arg Glu Arg Phe Ser Pro Asn Asn Ile Leu Leu Met Ile Ala Gly  
225 230 235 240

Gly Gly Leu Leu Trp Leu Gly Trp Ala Gly Phe Asn Gly Gly Ala Pro  
245 250 255

Tyr Ala Pro Asn Ile Thr Ala Ser Ile Ala Val Leu Asn Thr Asn Val  
260 265 270

Ser Ala Ala Ala Ser Leu Leu Thr Trp Thr Cys Leu Asp Val Ile Phe  
275 280 285

Phe Gly Lys Pro Ser Val Ile Gly Ala Val Gln Gly Met Met Thr Gly  
290 295 300

Leu Val Cys Ile Thr Pro Gly Ala Gly Leu Val His Thr Trp Ala Ala  
305 310 315 320

Ile Leu Met Gly Ile Cys Gly Ser Leu Pro Trp Phe Ser Met Met  
325 330 335

Ile Leu His Lys Arg Ser Ala Leu Leu Gln Lys Val Asp Asp Thr Leu  
340 345 350

Ala Val Phe His Thr His Ala Val Ala Gly Leu Leu Gly Gly Phe Leu  
355 360 365

Thr Gly Leu Phe Ala Leu Pro Asp Leu Thr Ala Val His Thr His Ile  
370 375 380

Pro Gly Ala Arg Gly Ala Phe Tyr Gly Gly Ile Ala Gln Val Gly  
385 390 395 400

Lys Gln Ile Ala Gly Ala Leu Phe Val Val Val Trp Asn Val Val Ala  
405 410 415

Thr Thr Val Ile Leu Leu Gly Val Gly Leu Val Val Pro Leu Arg Met  
420 425 430

Pro Asp Glu Gln Leu Lys Ile Gly Asp Asp Ala Ala His Gly Glu Glu  
435 440 445

Ala Tyr Ala Leu Trp Gly Asp Gly Glu Arg Phe Asp Val Thr Arg His  
450 455 460

Glu Gly Ala Arg Gly Gly Ala Trp Gly Ala Ala Val Val Asp Glu Ala  
465 470 475 480

Met Asp His Arg Leu Ala Gly Met Gly Ala Arg Gly Val Thr Ile Gln  
485 490 495

Leu

<210> 11

<211> 1961

<212> DNA

<213> Glycine max

<400> 11

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gcacagaatg tcttggcatg tgtataaaat ttagatttgt caaattttaa aggaacttat 1920  
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<210> 12

<211> 486

<212> PRT

<213> Glycine max

<400> 12

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Trp Leu Asn Lys Gly Asp Asn Ala Trp Gln Leu Thr Ala Ala Thr Leu  
20 25 30

Val Gly Leu Gln Ser Met Pro Gly Leu Val Ile Leu Tyr Ala Ser Ile  
35 40 45

Val Lys Lys Lys Trp Ala Val Asn Ser Ala Phe Met Ala Leu Tyr Ala  
50 55 60

Phe Ala Ala Val Leu Ile Cys Trp Val Leu Val Cys Tyr Arg Met Ala  
65 70 75 80

Phe Gly Glu Glu Leu Phe Pro Phe Trp Gly Lys Gly Ala Pro Ala Leu  
85 90 95

Gly Gln Lys Phe Leu Thr Lys Arg Ala Ile Val Ile Glu Thr Ile His  
100 105 110

His Phe Asp Asn Gly Thr Val Glu Ser Pro Pro Glu Glu Pro Phe Tyr  
115 120 125

Pro Met Ala Ser Leu Val Tyr Phe Gln Phe Thr Phe Ala Ala Ile Thr  
130 135 140

Leu Ile Leu Leu Ala Gly Ser Val Leu Gly Arg Met Asn Ile Lys Ala  
145 150 155 160

Trp Met Ala Phe Val Pro Leu Trp Leu Ile Phe Ser Tyr Thr Val Gly  
165 170 175

Ala Phe Ser Leu Trp Gly Gly Phe Leu Tyr Gln Trp Gly Val Ile  
180 185 190

Asp Tyr Ser Gly Gly Tyr Val Ile His Leu Ser Ser Gly Ile Ala Gly  
195 200 205

Phe Thr Ala Ala Tyr Trp Val Gly Pro Arg Leu Lys Ser Asp Arg Glu  
210 215 220

Arg Phe Pro Pro Asn Asn Val Leu Leu Met Leu Ala Gly Ala Gly Leu  
225 230 235 240

Leu Trp Met Gly Trp Ser Gly Phe Asn Gly Gly Ala Pro Tyr Ala Ala  
245 250 255

Asn Ile Ala Ser Ser Ile Ala Val Leu Asn Thr Asn Ile Cys Ala Ala  
260 265 270

Thr Ser Leu Leu Val Trp Thr Thr Leu Asp Val Ile Phe Phe Gly Lys  
275 280 285

Pro Ser Val Ile Gly Ala Val Gln Gly Met Met Thr Gly Leu Val Cys  
290 295 300

Ile Thr Pro Gly Ala Gly Leu Val Gln Ser Trp Ala Ala Ile Val Met  
305 310 315 320

Gly Ile Leu Ser Gly Ser Ile Pro Trp Val Thr Met Met Ile Leu His  
325 330 335

Lys Lys Ser Thr Leu Leu Gln Lys Val Asp Asp Thr Leu Gly Val Phe  
340 345 350

His Thr His Ala Val Ala Gly Leu Leu Gly Gly Leu Leu Thr Gly Leu  
355 360 365

Leu Ala Glu Pro Ala Leu Cys Arg Leu Leu Leu Pro Val Thr Asn Ser  
370 375 380

Arg Gly Ala Phe Tyr Gly Gly Gly Gly Val Gln Phe Phe Lys Gln  
385 390 395 400

Leu Val Ala Ala Met Phe Val Ile Gly Trp Asn Leu Val Ser Thr Thr  
405 410 415

Ile Ile Leu Leu Val Ile Lys Leu Phe Ile Pro Leu Arg Met Pro Asp  
420 425 430

Glu Gln Leu Glu Ile Gly Asp Asp Ala Val His Gly Glu Glu Ala Tyr  
435 440 445

Ala Leu Trp Gly Asp Gly Glu Lys Tyr Asp Pro Thr Arg His Gly Ser  
450 455 460

Leu Gln Ser Gly Asn Thr Thr Val Ser Pro Tyr Val Asn Gly Ala Arg  
465 470 475 480

Gly Val Thr Ile Asn Leu  
485

<210> 13

<211> 1656

<212> DNA

<213> Triticum aestivum

<400> 13

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caaggtatag gttaggtatag cagtccggca agatgtcggt gcccgtggcg taccaggaa 120  
acacgtcggc ggcgggtggcc gactggctga acaaggcgaa caacgcgtgg cagctgacgg 180

cgtccacgct ggtgggcctc atgagcgtgc cgggcattgtt ggtgctgtac ggccggcgtgg 240  
 tgaagaagaa gtgggcggtc aactccgcct tcattggcgt ctacgccttc gcccggctct 300  
 ggatctgctg ggtcgctctgg gcctacaaca tgccttcgg cgaggagctg ctccccgttct 360  
 gggcaaggc cggccggcg ctcgaccagg cttccctcg cggccgcgc tcgctccgg 420  
 ccaccgcga ctaccgcga gacggcacgc tcgagacgc catggtgag ccctacttcc 480  
 ccatggccac cgtcgctac ttccagtgcg tgccgcgc catcacgctc atccctggtgg 540  
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 gggcgtcat cgactactgc ggcggctacg tcattccat ccccgccgc gtcggccgct 720  
 tcaccgcgc gtaactgggtc gggccaaggc ccaagaagga cagggagagc ttcccgccca 780  
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 acggggcg gccgtacgcg gccaatgtcg actcgccat ggcacatctg aacaccaaca 900  
 ttcgcacggc ggcgagccctc atcgctgttca ctcgcctcgat tgccgttcc ttcaagaagc 960  
 ctcgggtgtt cggccgcgc caggccgtga tcaccggctc cgtcgatc acggccaggcg 1020  
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 ggtacaccat gatgggtcgat cacaacgcgtt ccaagcttct tcacgcgtc gacgacaccc 1140  
 ttggcgtcat ccacacccac ggcgtcccg gcctgtggg cggcgttcc acggccctct 1200  
 tcgcgcgcgc gaaacctctgc aatctattcc ttccggtcat caactcccg ggcgccttct 1260  
 acgggtgtt aa cgggtggccgc cagtcggga agcagatcg cggagcgtc ttctgtatcg 1320  
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 tgtgattttc tctgcgttgc ttccattgtt tggttgccc gtctatattt gtcctgttt 1560  
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 aaatttcat agataaaaaaa aaaaaaaaaa aaaaaaaa 1656

<210> 14

<211> 470

<212> PRT

<213> Triticum aestivum

<400> 14

Met Ser Val Pro Val Ala Tyr Gln Gly Asn Thr Ser Ala Ala Val Ala  
 1 5 10 15

Asp Trp Leu Asn Lys Gly Asp Asn Ala Trp Gln Leu Thr Ala Ser Thr  
 20 25 30

Leu Val Gly Leu Met Ser Val Pro Gly Met Val Val Leu Tyr Gly Gly  
 35 40 45

Val Val Lys Lys Lys Trp Ala Val Asn Ser Ala Phe Met Ala Leu Tyr  
 50 55 60

Ala Phe Ala Ala Val Trp Ile Cys Trp Val Val Trp Ala Tyr Asn Met  
 65 70 75 80

Ser Phe Gly Glu Glu Leu Leu Pro Phe Trp Gly Lys Ala Gly Pro Ala  
 85 90 95

Leu Asp Gln Ala Phe Leu Val Gly Arg Ala Ser Leu Pro Ala Thr Ala  
 100 105 110

His Tyr Arg Ala Asp Gly Thr Leu Glu Thr Ala Met Val Glu Pro Tyr  
 115 120 125

Phe Pro Met Ala Thr Val Val Tyr Phe Gln Cys Val Phe Ala Ala Ile  
 130 135 140

Thr Leu Ile Leu Val Ala Gly Ser Leu Leu Gly Arg Met Ser Phe Leu  
 145 150 155 160  
 Ala Trp Met Leu Phe Val Pro Leu Trp Leu Thr Phe Ser Tyr Thr Val  
 165 170 175  
 Gly Ala Phe Ser Val Trp Gly Gly Phe Leu Phe His Trp Gly Val  
 180 185 190  
 Ile Asp Tyr Cys Gly Gly Tyr Val Ile His Ile Pro Ala Gly Val Ala  
 195 200 205  
 Gly Phe Thr Ala Ala Tyr Trp Val Gly Pro Arg Thr Lys Lys Asp Arg  
 210 215 220  
 Glu Ser Phe Pro Pro Asn Asn Ile Leu Phe Ala Leu Thr Gly Ala Gly  
 225 230 235 240  
 Leu Leu Trp Met Gly Trp Ala Gly Phe Asn Gly Gly Pro Tyr Ala  
 245 250 255  
 Ala Asn Val Asp Ser Ser Met Ala Ile Leu Asn Thr Asn Ile Cys Thr  
 260 265 270  
 Ala Ala Ser Leu Ile Val Trp Thr Cys Leu Asp Ala Val Phe Phe Lys  
 275 280 285  
 Lys Pro Ser Val Val Gly Ala Val Gln Ala Val Ile Thr Gly Leu Val  
 290 295 300  
 Cys Ile Thr Pro Gly Ala Gly Val Val Gln Gly Trp Ala Ala Leu Val  
 305 310 315 320  
 Met Gly Val Leu Ala Gly Ser Val Pro Trp Tyr Thr Met Met Val Leu  
 325 330 335  
 His Lys Arg Ser Lys Leu Leu Gln Arg Val Asp Asp Thr Leu Gly Val  
 340 345 350  
 Ile His Thr His Gly Val Ala Gly Leu Leu Gly Gly Val Leu Thr Gly  
 355 360 365  
 Leu Phe Ala Glu Pro Asn Leu Cys Asn Leu Phe Leu Pro Val Thr Asn  
 370 375 380  
 Ser Arg Gly Ala Phe Tyr Gly Gly Asn Gly Ala Gln Leu Gly Lys  
 385 390 395 400  
 Gln Ile Ala Gly Ala Leu Phe Val Ile Gly Trp Asn Val Val Thr  
 405 410 415  
 Ser Ile Ile Cys Val Val Ile Arg Leu Val Val Pro Leu Arg Met Ser  
 420 425 430  
 Glu Glu Lys Leu Ala Ile Gly Asp Asp Ala Val His Gly Glu Glu Ala  
 435 440 445  
 Tyr Ala Leu Trp Gly Asp Gly Glu His Tyr Asp Asp Thr Lys His Gly  
 450 455 460

Ala Ala Val Val Pro Val  
465 470

the end of the peptide chain in the middle of the molecule.